

**Abstract**

When a drive power demand  $P_{v^*}$  is greater than 0, the control procedure of the invention sets the greater between an engine speed demand  $N_{req}$  and a lower engine speed limit  $N_{min}$  to a target rotation speed  $N_{e^*}$  of an engine (step S160). The engine speed demand  $N_{req}$  represents a rotation speed of the engine at a specific drive point that ensures efficient output of an engine power demand  $P_{e^*}$ . The lower engine speed limit  $N_{min}$  represents a rotation speed of the engine at another specific drive point for a constant-speed drive of a hybrid vehicle at a current vehicle speed  $V$ . When the drive power demand  $P_{v^*}$  is equal to 0, the control procedure of the invention cuts fuel supply to the engine and sets the lower engine speed limit  $N_{min}$  to the target rotation speed  $N_{e^*}$  of the engine (step S190). The engine is accordingly driven at the rotation speed of not lower than the lower engine speed limit  $N_{min}$  and has a quick response to a demand for output power increase from the engine. This arrangement desirably reduces the loading of a battery and prevents premature deterioration of the battery.